

Chapter 7

Linear Programming



Copy & Complete these questions:

What job(s) would you like to have?

What job(s) could you get now?

Why is there a difference?

- experience
- time
- education
- criminal record
- age
-

Why would you want a job?

- money
- pension
- health care
- work experience
- interest.

- What would be some limitations to making the greatest amount of money?

- \$/hour
- experience
- years in job
- age.
- time
- location
- education
- position
- compensation

What are some different ways that you could be paid?

- * \$ / hour
- ton mile
- \$ / day
- * commission
- * salary

7.1 – Exploring an Optimization Problem

- Constraint – a restriction on the allowable values of a variable in a problem

Example: Only have 20 hrs. to work in a week, this is a constraint on the variable time.

- Investigation 1 & 2 together
- Check your understanding
- Page 308, #7-9

Investigation 1

Read over opening paragraph on page 306

What do we know?

- \$13.50 per couch bundle
- 2 hrs. per couch bundle
- \$5.50 per chair bundle
- 45 mins per chair bundle.
- she makes the fraction she finishes.

What constraints do we have?

- time available to work.
- type of material
- amount of material
- employer requires
- breaks
- taxes.

Classwork/Homework

1. Answer procedure questions Pg.306
2. Answer investigation questions Pg. 307

Investigation #1 (Pg.306)

ANSWERS

A. Answers are limited by time (maximum money earned depends directly on time).

B. She can calculate an answer by solving an equation, trial and error, table of values, or a graph.

- find the answer by finding the sum of couch bundles made and the chair bundles made.

$I = 5.5b + 13.5n$ (b is the number of chairs and n is the number of couches)

C. Possible constraints:

- time in a day
- time in a week
- amount of material given
- number of chairs and number of couches that need to be made
- number of bundles required by the manufacturer
- the customer base
- the cost of chair and couch material
- the available material and cutting tools
- - the number of employees

Pg. 307 #1-3

#1. time 12 hrs \rightarrow week

Focus A (Page 307)